



AgCert International

Data Management

SafeCert™

EnviroCert™



Assurance

Animal
Welfare

Competitive
Advantage

Certification

Environmental
Compliance

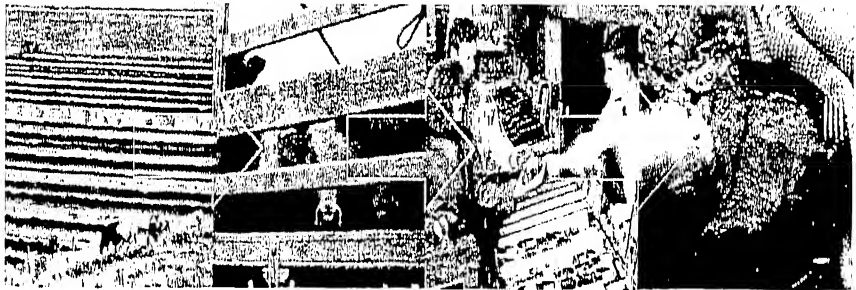
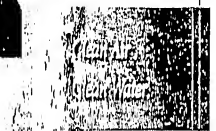
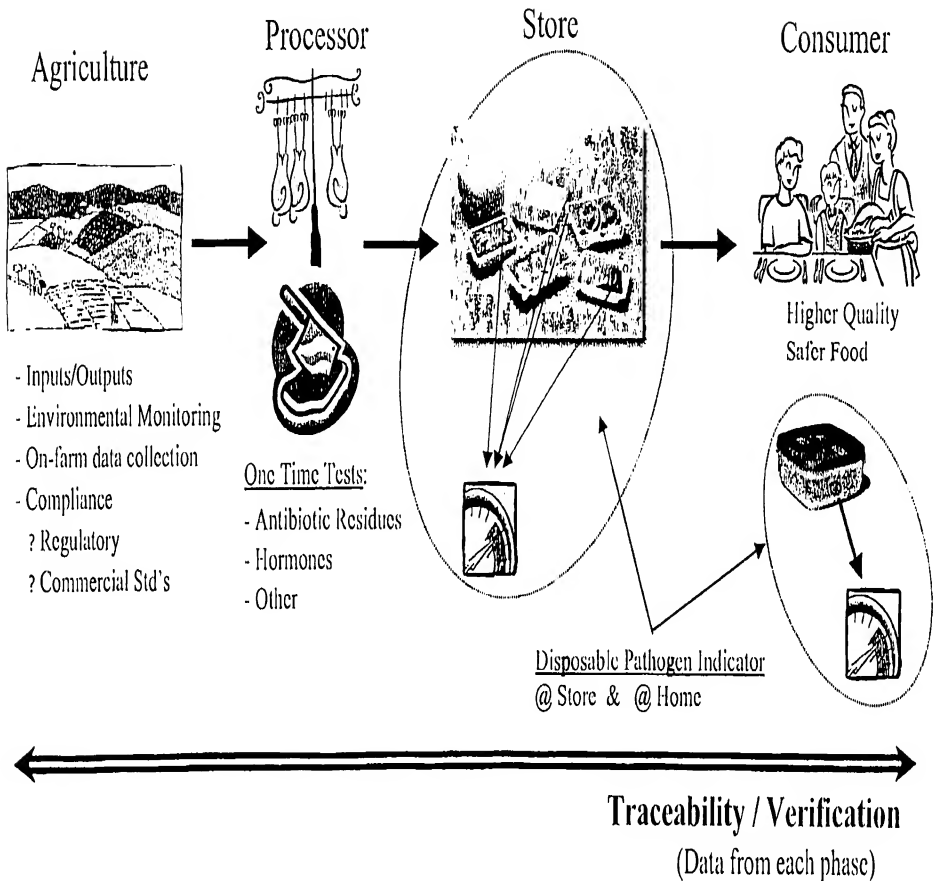
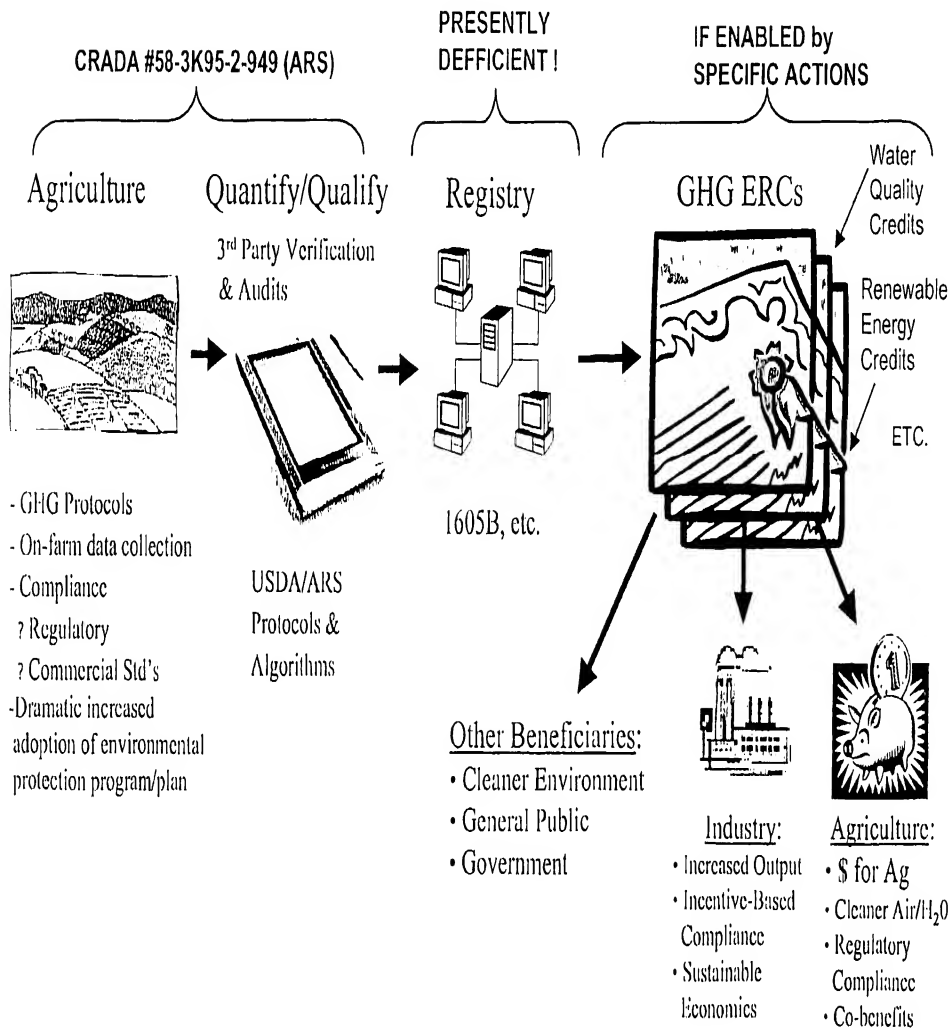


EXHIBIT E

Food Safety/Quality - SafeCert™



Environmental - CarbonCert™



CRADA

- CRADA 58-3K95-2-949, entitled "Development of Greenhouse Gas Algorithms for Agricultural Systems" between AgCert & ARS
- Phase 1:
Provides research, data and other resources to develop and evaluate methods and technology needed to standardize/certify the qualitative and quantitative value and volume of Greenhouse Gas (carbon dioxide, methane, and nitrous oxide) and/or equivalent compounds avoided, mitigated or sequestered through various agricultural production practices

CREATING THE SCIENCE

- Phase 2:
Undertakes a holistic examination of agricultural production systems to maximize both GHG emission reductions and various co-benefits (including cleaner air and water). Develops the procedures & guidelines for Whole Farm Agricultural Environmental Management Compliance Plan, utilizing the ARS-developed methods and technology.

CREATING APPLICATIONS

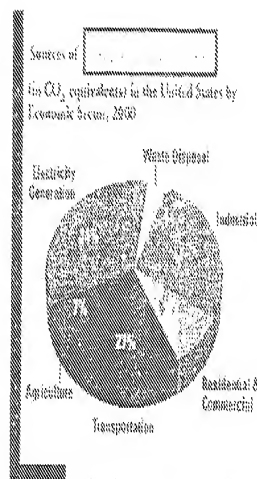
- CRADA addresses ALL agricultural verticals, sectors, and geographic locations

U.S. Agriculture and GHG Reductions

U.S. Agriculture Has TREMENDOUS Potential to Help Solve the Worldwide GHG Problem...

- Minimal Greenhouse Gas emitter ($\approx 7\%$)
- One of world's largest potential supplies of GHG reductions

- Concentrated biomass (CAFOs)
- Large arable landmass
- Potential to realize GHG improvement from multiple practices within a system
- Capable of generating a large, predictable, renewable supply – important to large buyers; reduces errors; minimizes risks

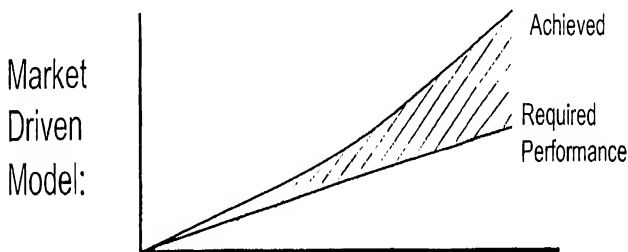


...U.S. Agriculture and GHG Reductions

(cont.)

U.S. Agriculture Has TREMENDOUS Potential to Help Solve the Worldwide GHG Problem...

- GHG driven production practice changes will have profound positive impact on environment (numerous co-benefits)
 - GHG emission reductions can become a significant new revenue source for Agriculture
 - Dramatically increased adoption of environmental protection program/plan
 - Measurable, verifiable data
 - Cleaner air & water



What Elements are Necessary to Create AgCert the "Gold Standard" Ag GHG ERC ?

HOW?

- | | |
|---|---------------|
| • Sound Science | CRADA |
| • Baseline(s) | USG |
| • Database: robust, transparent, geo-referenced | AgCert System |
| • Rigorous Quality Assurance/ISO | AgCert System |
| • Agriculture Incentives | |
| – Market driven | } USDA |
| – Sustainable economics | |
| – Regulatory compliance | |
| • Reduced risk | |
| • Preferred loan/insurance rates | & |
| | AgCert |
| • ERC trading mechanisms | MISSING! |
| – Registry | |

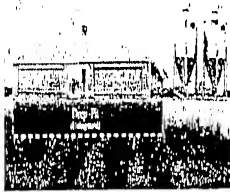
Progressive application of technologies & processes

Manure Management

Open Air



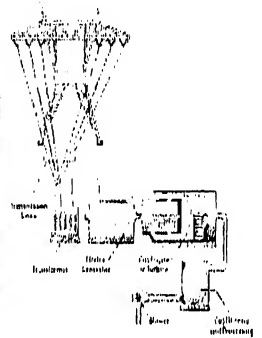
Contained Structure



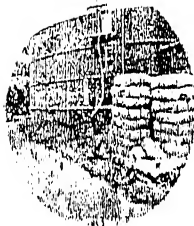
Digester



Electric Generation



OR



OR



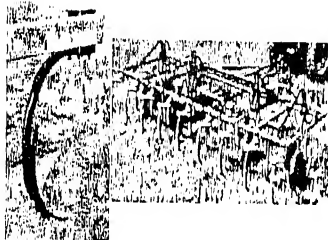
Progressive application of technologies & processes

Tillage

Invasive



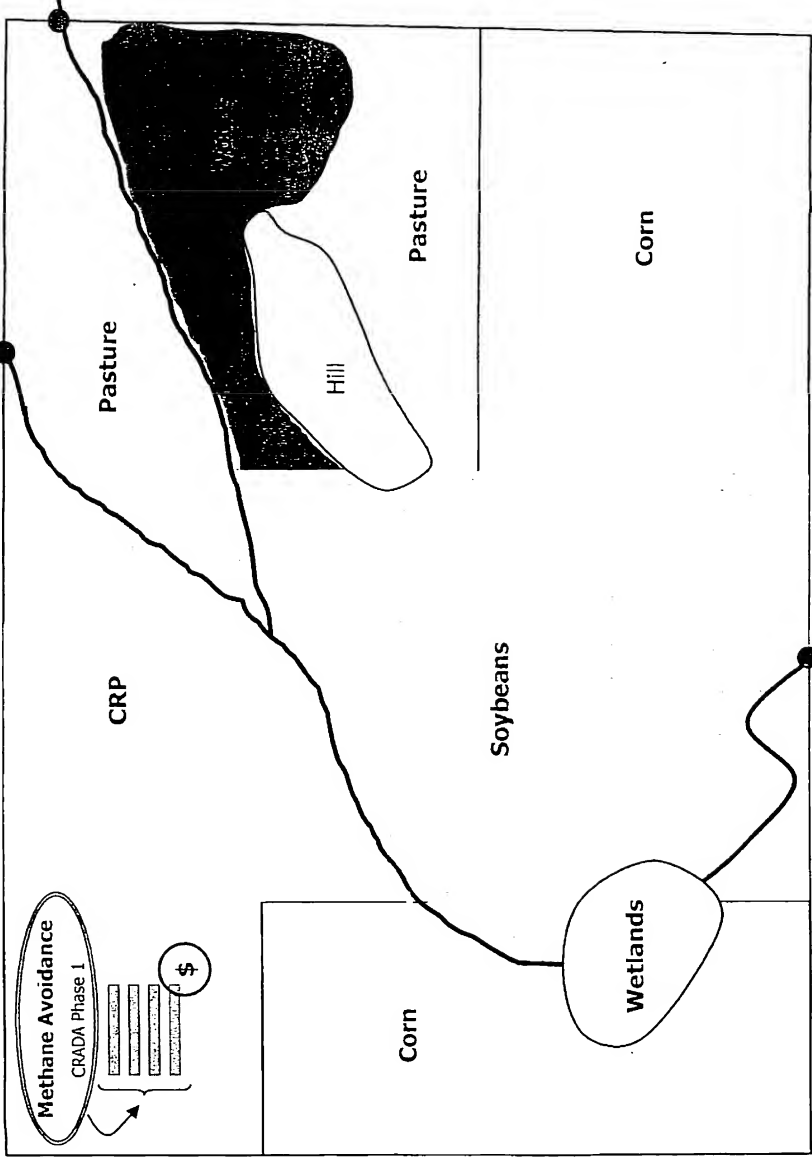
Minimum Till



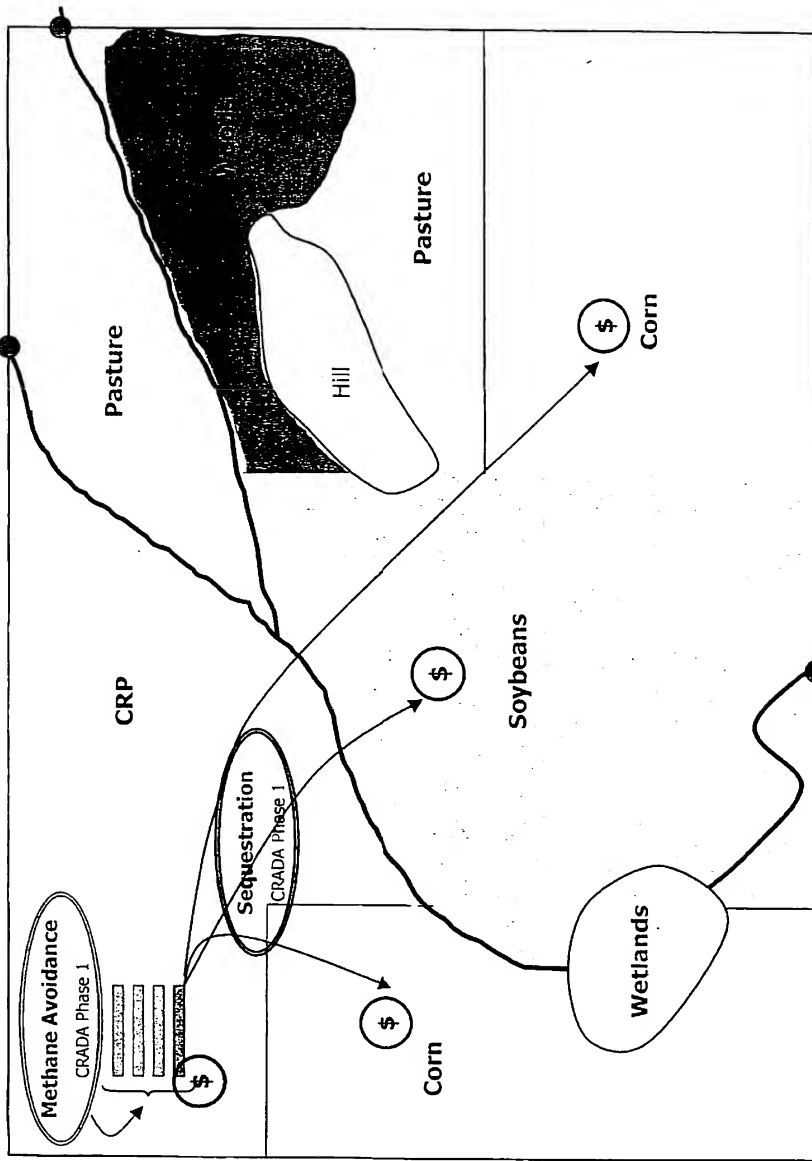
No Till



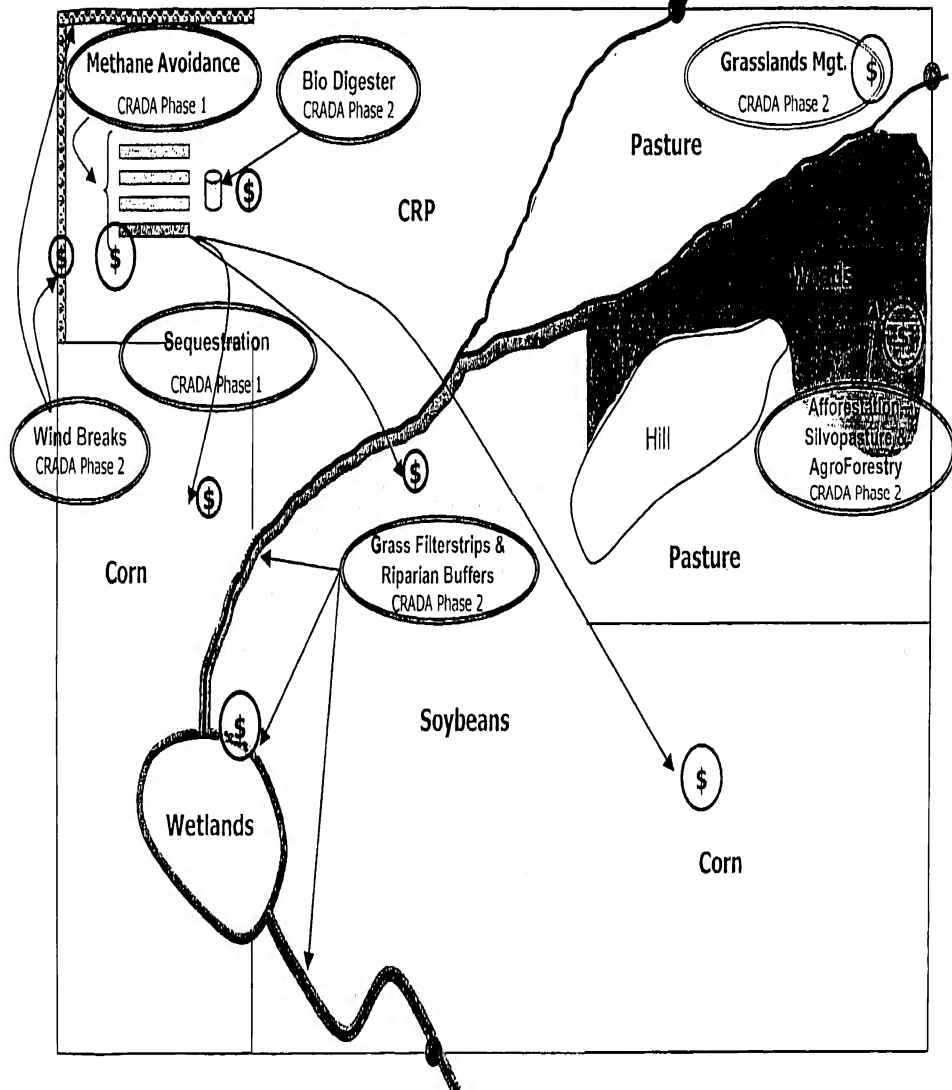
Phased Approach to GHG Emission Reductions



Phased Approach to GHG Emission Reductions

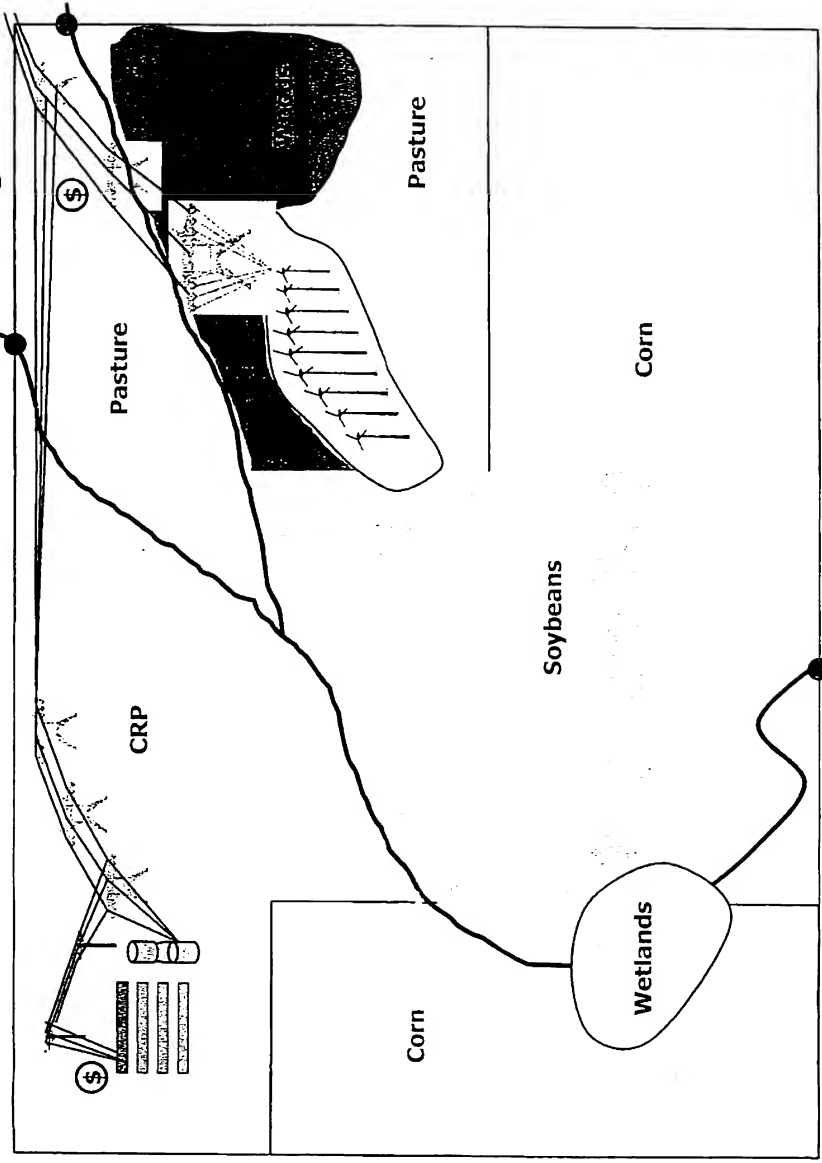


Phased Approach to GHG Emission Reductions





Green Power & GHG Emission Reductions



Calculations, 640 acre farm



Typical Farm Land Use, 640 acres, Corn Belt:

<u>Usage</u>	<u>Percentage</u>	<u>Acres</u>	
Crops	53.4%	341.76	➔ <div style="border: 1px solid black; padding: 5px; display: inline-block;">~ 260 cows ~ 5630 pigs</div>
CRP	6.6%	42.24	
Pasture	7.0%	44.8	
Woodlot	19.0%	121.6	
Other use	14.0%	89.6	(farmstead, wetlands, etc.)

Major Land Use by Region 1997 USDA

➔ A dairy milking 900 cows produces 47,887 tons of manure

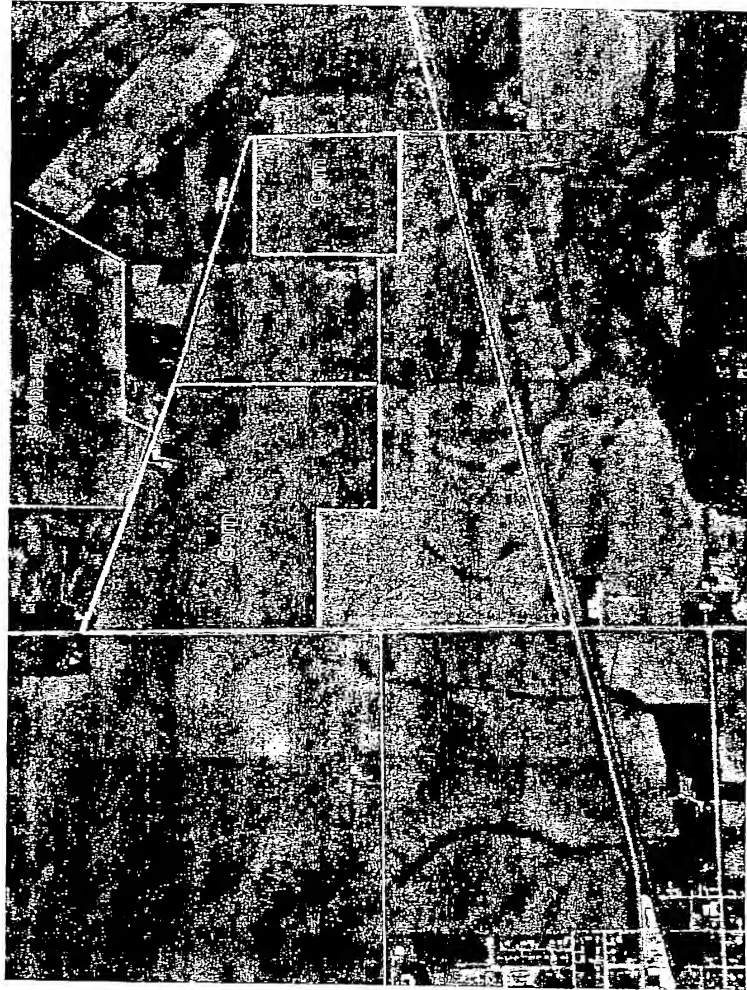
➔ 175 pounds of N applied per acre = 1.314 acres per cow

➔ @ 3,000 gallons/acre application rate, 1 acre = 16.47 pigs

USDA-NRCS Agricultural Waste Management Field Handbook, Tables 4.4, 4.5, and Figure 4-1

Design and Management of Anaerobic Lagoons in Iowa for Animal Manure Storage and Treatment

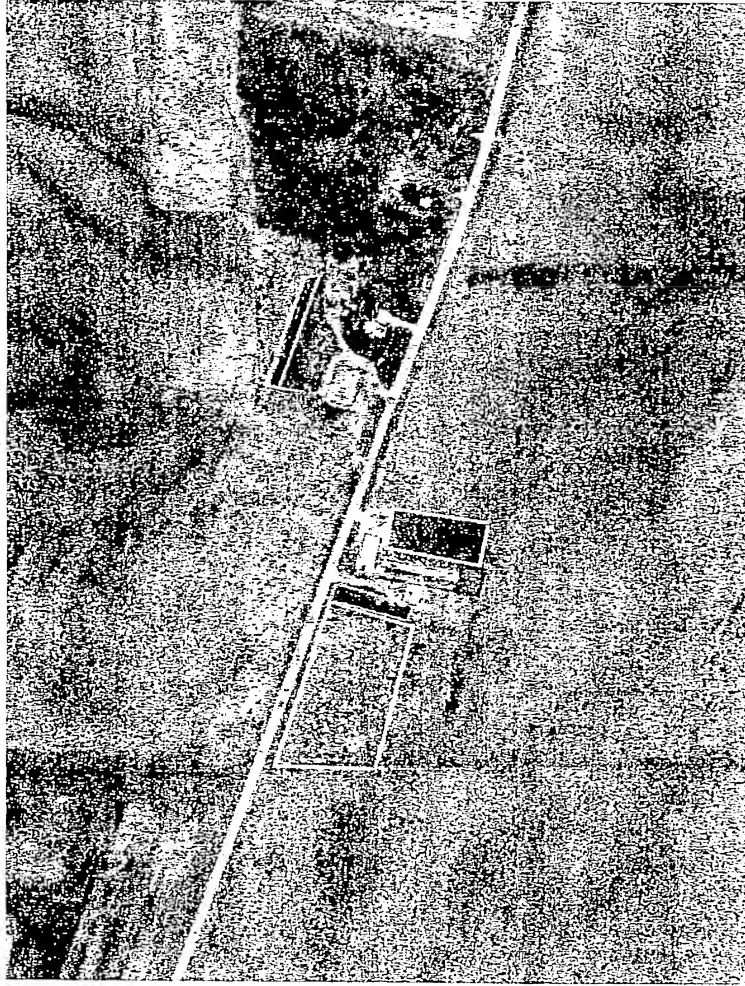
Aerial Georeferenced Farm Data



= CORN
GREEN = SOYBEANS

LEGEND:

Aerial Georeferenced Farm Data



LEGEND:

GREEN = WINDBREAKS	ANIMAL PRODUCTION	BLUE = DEEP PIT WASTE DISPOSAL
	CROP & ANIMAL FACILITIES	



**Conservation
practices and
programs for
your farm**

[illegible]

- Other Federal Programs: AgSTAR, Ruminant Livestock Efficiency Program (RLEP), etc.
- State Programs (e.g.: Calif. dairy generator funding sb16x)
- Local/municipal programs (especially watershed related)

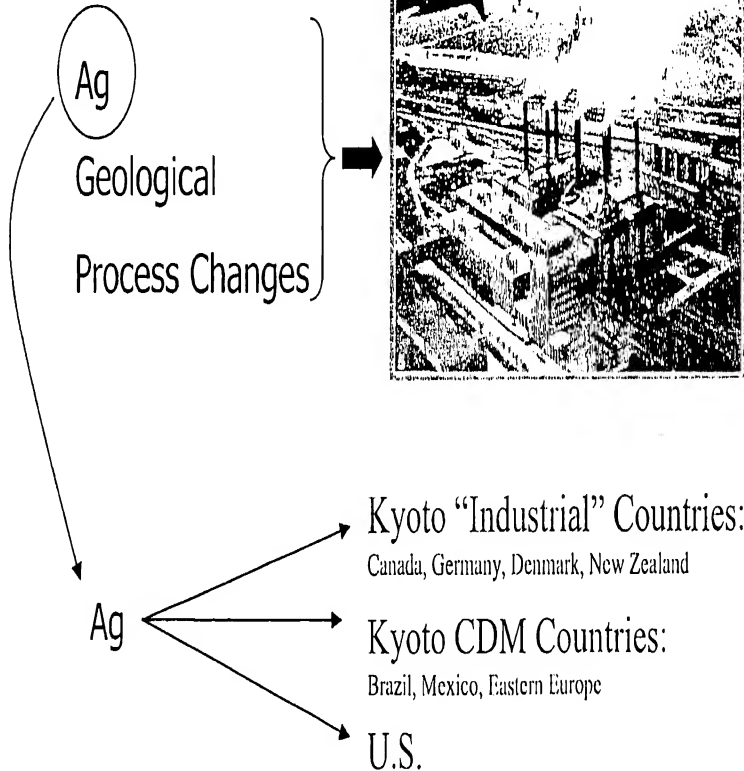
Quality Assurance

- Essential component of Emission Reduction Credit (ERC) “quality” equation
- AgCert’s system establishes the “Gold Standard”
 - Built upon ISO platform
 - Uses independent assessors/auditors
 - Strong underlying qualifications (CCA, Environmental Eng’s, etc.)
 - ANSI and/or ISO certified
 - Rigorously trained on AgCert/USDA protocols
 - Re-certified annually
 - Multiple independent audit steps
 - Data collection will enable GPS/time/date stamping
 - Accommodates (optional) Customer Requested audits
- *Most striking opportunity to differentiate Ag ERCs from other sources*

Ag ERCs vs. Other ERCs



Different ERC Sources:



We need to enable U.S. Ag to sell into ALL markets!

Ag ERCs vs. Other ERCs



AgCert International LLC Emission Reduction Credit Sources Comparison Matrix

Attributes/Sources	AgCert's EnviroCert		Geological Sequestration			Renewable Energy			Forestry	
	Avoidance	Sequestration	Enhanced Oil Recovery	Deep Ocean Injection	Direct Injection	Biomass	Hydro	Wind Turbines	Afforestation	Ag Forestry
Government Approved Protocols	✓	✓				✓			✓	✓
Third Party Verification	✓	✓				✓	✓	✓	✓	✓
Large Available Supply	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Renewable Supply	✓	✓	✓	✓	✓	✓	✓	✓		
Measurable Science	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Uniformity of Supply	✓	✓	?	✓	✓	✓	✓	✓	✓	✓
Meets Additional Requirements	✓	✓	??	✓	✓	✓	✓	✓	✓	✓
Permanence	✓	?	??	??	??	✓	✓	✓	?	?
Environmental Co-Benefits*	✓	✓				✓	✓	✓	✓	✓
Unintended Consequences			??	??	??					

Definitions:

AgCert's EnviroCert Protocols:

Avoidance

Methane avoidance projects involve changing manure handling/containment practices to avoid the (normal) production of methane. Practice change examples include changing from uncovered lagoons to contained storage technologies; and/or using anaerobic digers.

Sequestration

Sequestration projects involve capturing and storing CO₂ below the agricultural land preventing it from being released into the atmosphere for a specified period of time.

Geological Sequestration:

Enhanced Oil Recovery

Enhanced oil recovery projects involve capturing CO₂ that would otherwise be vented to the atmosphere for injection into crude production fields to enhance oil recovery.

Direct Injection

Direct injection projects involve the (re)injection and long-term underground storage of CO₂ in underground reservoirs.

Deep Ocean Injection

Deep ocean injection projects involve injecting CO₂ into the deep ocean (approximately 10,000 feet) and allowing it to dissolve in the ocean water.

Renewable Energy:

Biomass

Biomass projects involve switching from a more GHG intensive fuel to biomass. Biomass can include agricultural and forestry wastes or crops and trees grown for biomass.

Hydro

Hydro projects involve switching from a more GHG intensive fuel to hydro.

Wind

Wind projects involve switching from a more GHG intensive fuel to wind.

Forestry:

Afforestation

Afforestation projects are the conversion of non-forest to forest on lands previously in a non-forest use.

Ag Forestry

Ag Forestry projects involve commercial reforestation efforts.

* See Co-Benefit Comparison

Ag ERCs vs. Other ERCs



AgCert International LLC Emission Reduction Credit Sources Co-Benefit Comparison Matrix

Co-Benefits/Sources	AgCert's EnviroCert		Geological Sequestration			Renewable Energy			Forestry	
	Avoidance	Sequestration	Enhanced Oil Recovery	Deep Ocean Injection	Direct Injection	Biomass	Hydro	Wind Turbines	Afforestation	Ag Forestry
Cleaner Air	✓	✓				✓	✓	✓	✓	✓
Cleaner Water	✓	✓				✓	✓	✓	✓	✓
Revenue to Agriculture	✓	✓				✓		✓	✓	✓
Reduce Use of Petro-Based Fertilizer	✓	✓				✓				
Increase Regulatory Compliance	✓	✓				✓			✓	✓
Renewable Energy Potential	✓	✓				✓	✓	✓		
USDA Royalties	✓	✓				✓		✓	✓	✓
Successful Technology Transfer	✓	✓				✓		✓	✓	✓
Potential Decrease in Farm Subsidies	✓	✓				✓		✓	✓	✓
Dramatically Increase Adoption of Environmental Protection	✓	✓				✓				
Reduce Government Enforcement Costs	✓	✓				✓				
U.S. Leadership	✓	✓				✓	✓	✓		

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Enhanced Oil Recovery

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Wind projects involve switching from a more GHG intensive fuel to wind.

Forestry:

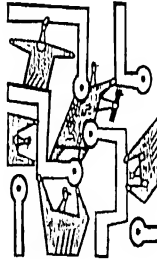
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The Market



Early GHG trades were a **rodeo** – most trades were more concerned with generating publicity than creating actual GHG benefit.

Today's trades are **complex** - based upon science, but with no standard of performance, varied protocols and a wide range of differing values for GHG.

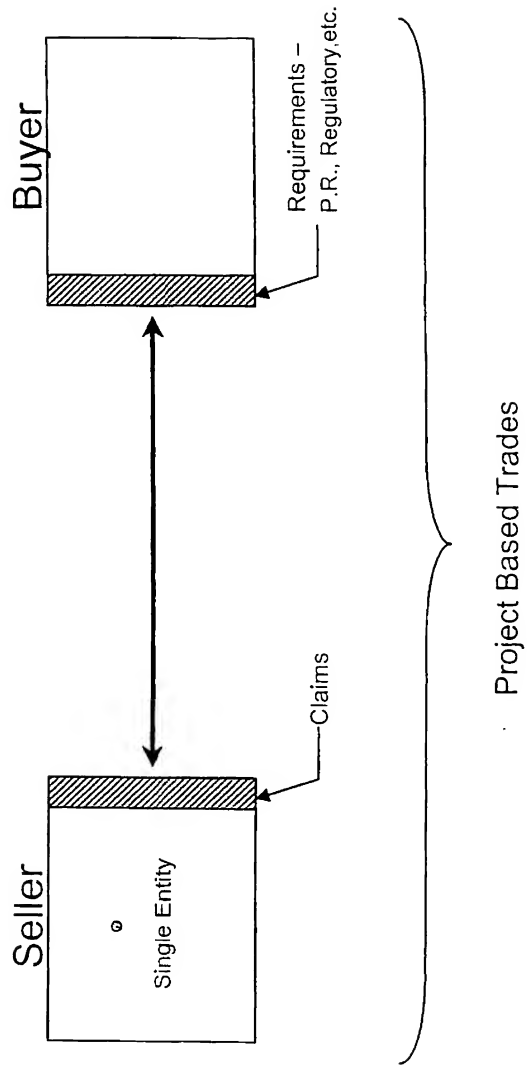
Tomorrow AgCert will provide **government-derived** standards of performance & protocols, which will add real value to the GHG market and will enable greater GHG benefits.

Before

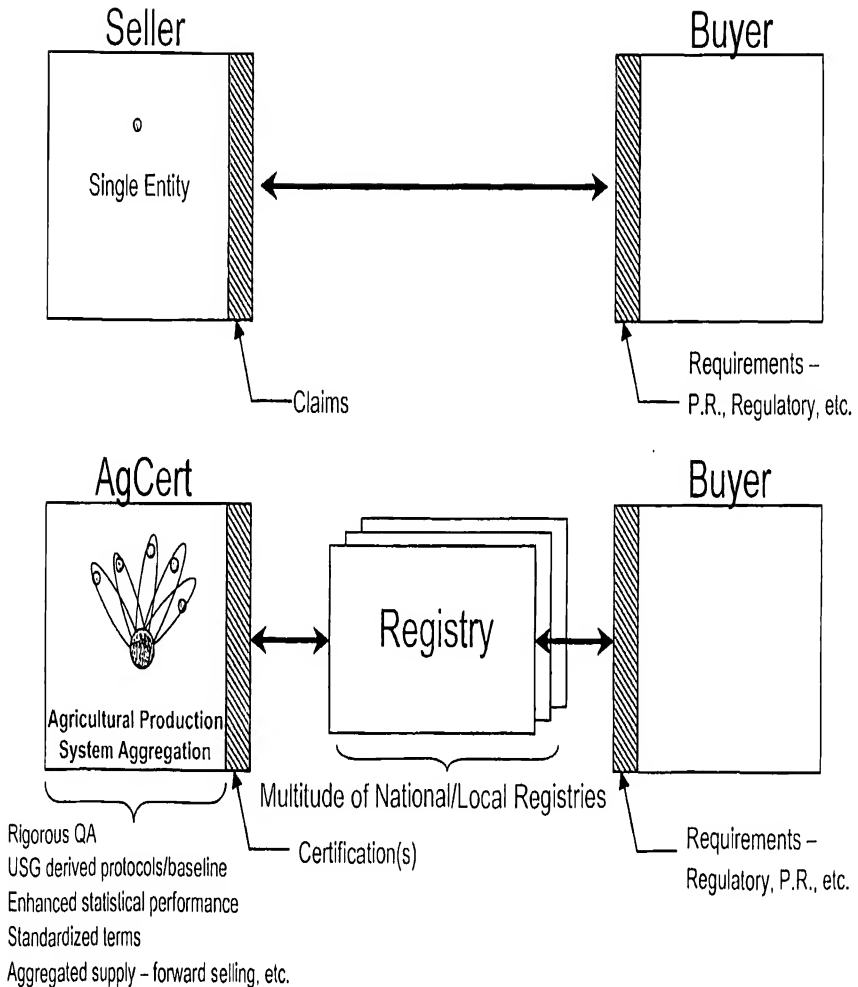
Now

The Future

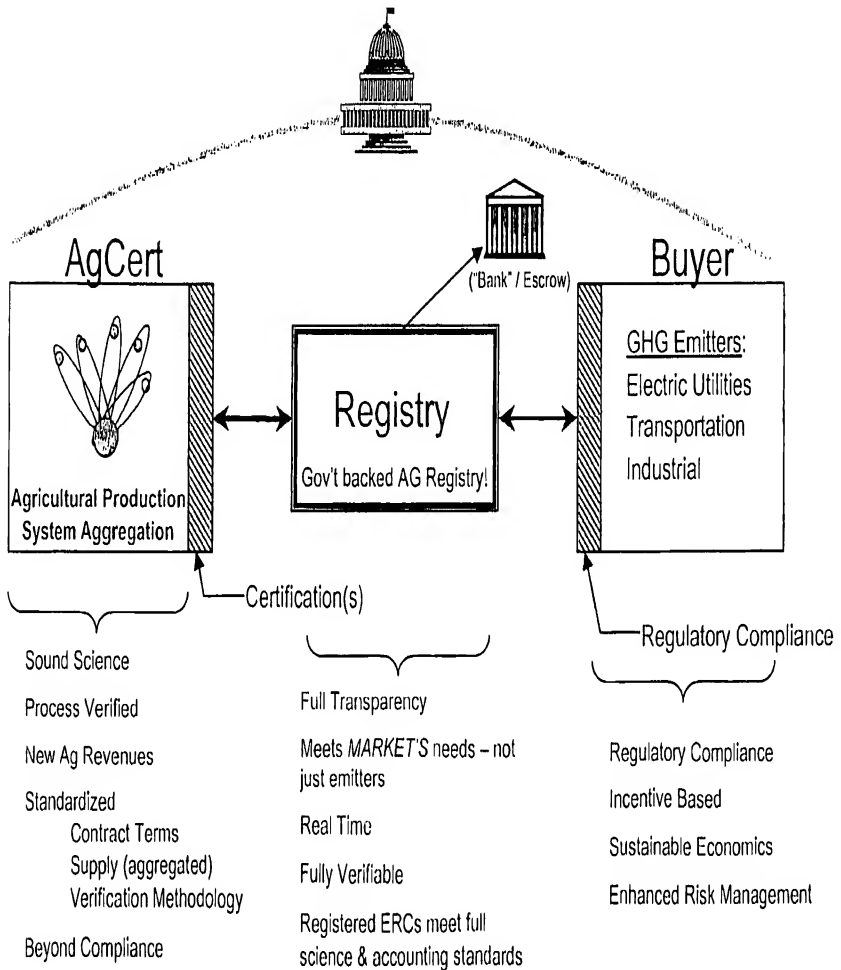
The Market...In the Past



The Market...Today



The Market ...Tomorrow



****20,000 Metric Tons CO₂e****

Created Pursuant to CRADA NO. 58-3K95-2-949

Serial NO. 1998-5002-DPMS-3626

1998-5003-DPMS-4441

1998-5004-DPMS-2151

1998-5006-DPMS-3870

1998-5007-DPMS-3010

1998-5011-DPMS-2902

*******CERTIFICATE*******

Twenty Thousand Metric Tons
Carbon Dioxide Equivalent Emission Reduction



For the benefit of Privet, LLC.

CO₂e Source: Methane Avoidance

AgCert International LLC

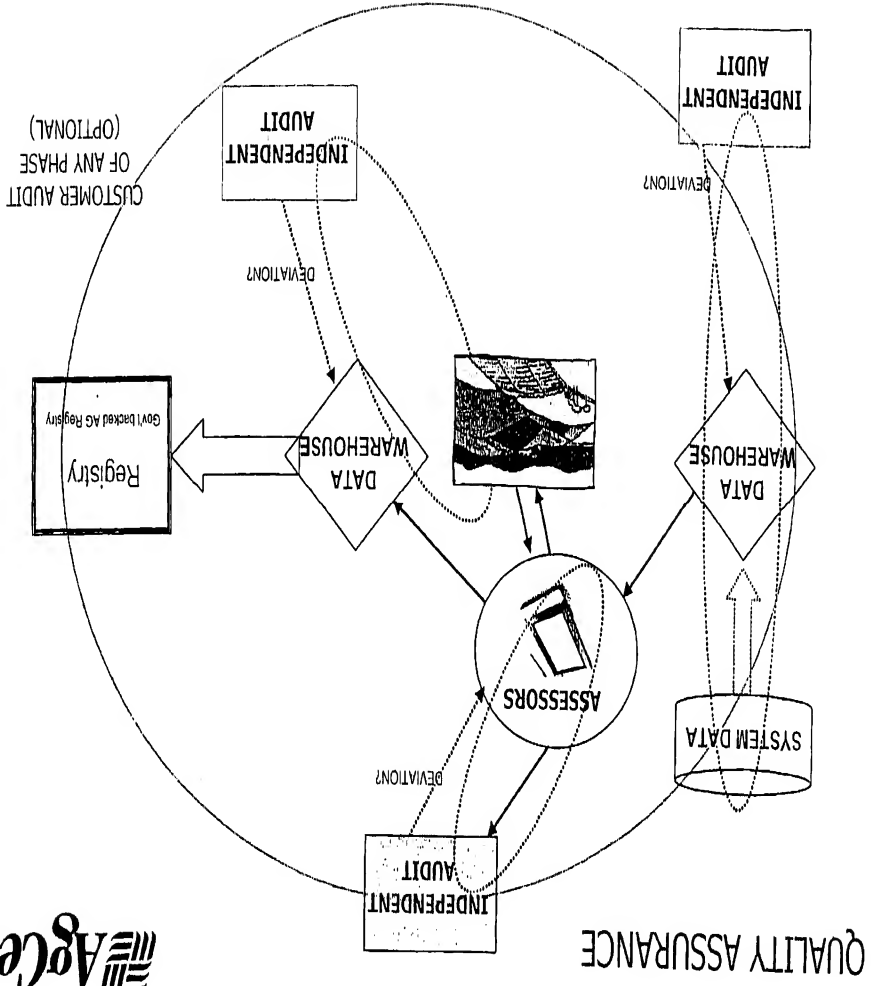
Alan Tank
CEO

December 6, 2002

----- Transfer Restrictions on Reverse Side of Certificate -----

How Do We Capture This Opportunity for Ag?

- NRCS Advocacy
- Prioritization of CS & TA
- USG Backed Ag Registry
- Science/economic based accounting system (registration of ERCs requires government approved protocols/methodologies)
- DISCUSSION



QA PGM (Ex: ISO)



